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Energy Information Administration

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Libya

Libya is a major oil exporter, particularly to Europe. With the suspension of U.N. sanctions against Libya following its extradition of two men suspected in the 1988 bombing of Pan Am flight 103 over Lockerbie, Scotland, oil companies are eager to resume and/or expand operations in Libya.

Note: Information contained in this report is the best available as of July 2001 and can change.

GENERAL BACKGROUND

Oil export revenues, which account for about 95% of Libya's hard currency earnings (and 75% of government receipts), were hurt severely by the dramatic decline in oil prices during 1998, as well as by reduced oil exports and production -- in part as a result of U.S. and U.N. sanctions. With sharply higher oil prices since 1999, however, Libyan oil export revenues have more than doubled (to $12.9 billion in 2000, and forecast at around $12.5 billion in 2001). Despite this oil revenues windfall, Libya is hoping to reduce its dependency on oil as the country's sole source of income, and to increase investment in agriculture, tourism, fisheries, mining, and natural gas. Libya also is attempting to position itself as a key economic intermediary between Europe and Africa, has become more involved in the Euro-Mediterranean process, and has pushed for a new African Union. In April 2001, members of the Arab Maghreb Union (Algeria, Libya, Mauritania, Morocco, and Tunisia) agreed to encourage intra-regional cooperation on trade, customs, banking, and investment issues.

Following years of stagnation, real gross domestic product (GDP) growth of around 4.5% is expected in 2001 (following 5%-6.5% growth in 2000). This could help reduce Libya's 30% unemployment rate, and also will make it easier for Libya to maintain a budget surplus. Libya's relatively poor infrastructure (i.e. roads and logistics), unclear legal structure, often-arbitrary government decisionmaking process, bloated public sector (as much as 60% of government spending goes towards paying public sector employees' salaries), and various structural rigidities all have been impediments to foreign investment and economic growth. Libya's need for increased foreign investment may help push the country towards economic liberalization. In September 1999, however, President Qadhafi appeared to reject such a move, saying that Libya would block speculative investment. A compromise could be to encourage joint ventures between foreign and domestic companies. Also in recent months, Libya has eased foreign exchange controls and has established a free-trade zone. Libya's agricultural sector is a top governmental priority. Hopes are that the Great Man Made River (GMR), a five-phase, $30-billion project to bring water from underground aquifers beneath the Sahara to the Mediterranean coast, will reduce the country's water shortage and its dependence on food imports.

On March 1, 2000, President Qadhafi made a surprise announcement that the Libyan government had effectively been abolished and that powers would be devolved to the local level. Earlier, on January 28, 2000, President Qadhafi had publicly rejected the draft 2000 budget at the opening session for the General People's Congress. Qadhafi described the budget as "treason," and complained that it had been based 100% on "use of oil receipts...for the state's ordinary spending or...imports" as opposed to development. A revised budget was presented on February 27, 2000, reportedly allocating more funds to infrastructure development. Meanwhile, with the abolition of the country's energy ministry, the National Oil Company (NOC), under former Oil Minister al-Badri, is now formally in charge of the country's energy policy. This appears to have streamlined energy sector decisionmaking to an extent, although further delay in Libya's new hydrocarbons law (which is designed to encourage foreign investment) appears likely.

On April 5, 1999, more than 10 years after the 1988 bombing of Pan Am flight 103 over Lockerbie, Scotland that killed 270 people, Libya extradited two men suspected in the attack. In response, the United Nations suspended economic and other sanctions against Libya which had been in place since April 1992. U.S. sanctions, including the Iran-Libya Sanctions Act (ILSA) of 1996 (which covers foreign companies that make new investments of $40 million or more over a 12-month period in Libya's oil or gas sectors) remain in effect. On July 27, 2001, the US Congress voted to extend ILSA for five more years. U.N. sanctions since 1992 reportedly have cost Libya billions of dollars in lost income, and have made it more difficult for Libya to develop its energy sector. A full lifting of sanctions can occur 90 days after the U.N. certifies that Libya has met all requirements, including renunciation of support for terrorist acts. On July 9, 1999, the U.N. Security Council issued a statement saying that while it "welcomed the significant progress" which Libya had made in complying with U.N. demands, that at the same time Libya would need to do more (i.e., cooperate with court proceedings, pay compensation to families if the suspects are convicted) before sanctions were lifted permanently.

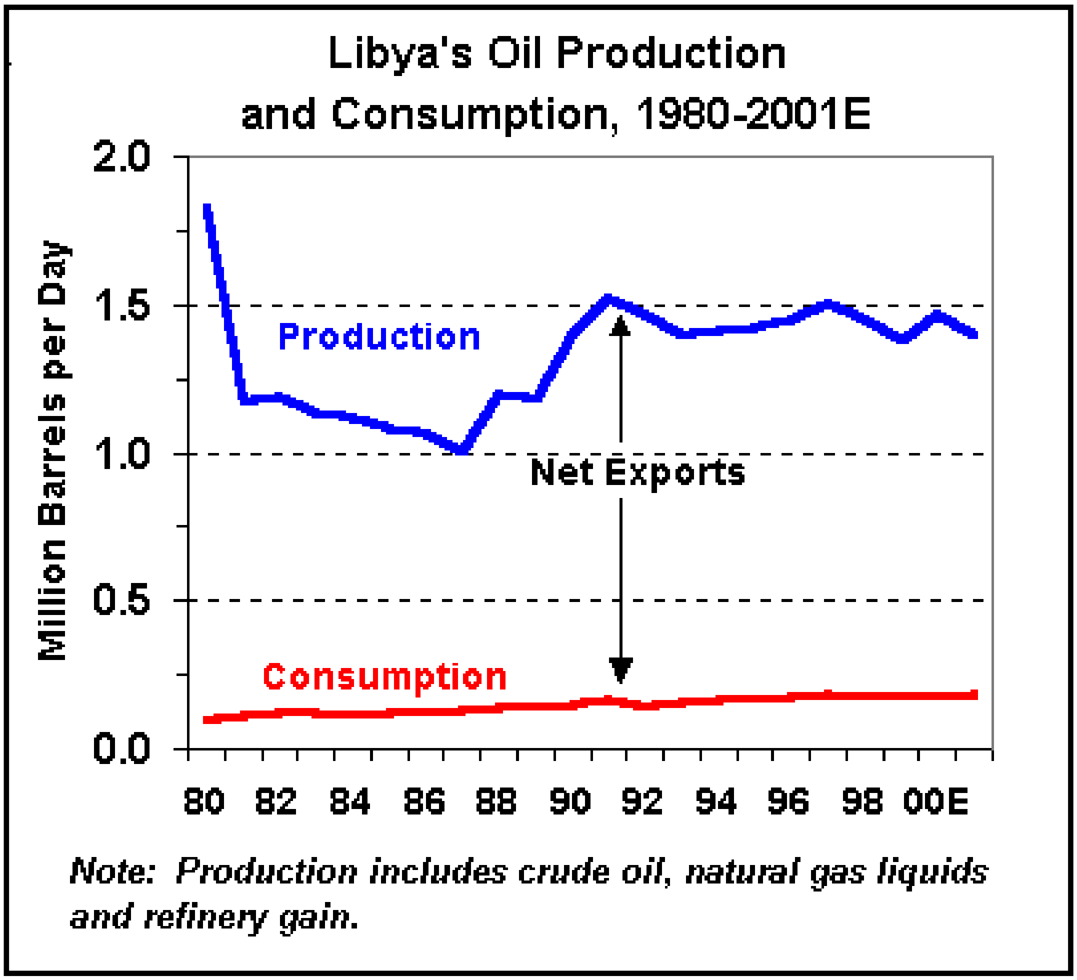
OIL

Libya's oil industry is run by the state-owned National Oil Corporation (NOC), along with smaller subsidiary companies. As of 2000, NOC had an estimated total oil production capacity of around 810,000 bbl/d, accounting for over half the country's total. Several international oil companies are engaged in exploration/production agreements with NOC. The leading foreign oil producer in Libya is Italy's Agip-ENI, which has been operating in the country since 1959. Two U.S. oil companies (Exxon and Mobil) withdrew from Libya in 1982, following a U.S. trade embargo begun in 1981. Five other U.S. companies (Amerada Hess, Conoco, Grace Petroleum, Marathon, and Occidental) remained active in Libya until 1986, when President Reagan ordered them all to cease activities there. In December 1999, U.S. oil company executives from these five companies (except for Grace) traveled to Libya, with U.S. government approval, to visit their old oil facilities in the country. Prior to sanctions, the four companies produced around 400,000 bbl/d in Libya. The head of NOC, Abdullah al-Badri, has stated that if U.S. companies return to Libya, they will return to the fields they used to operate in the country. However, in the first part of 2001, Libya contacted the U.S. companies and indicated that, given its desire to develop their fields, Libya was considering transferring them to European companies. Along these lines, news reports in May 2001 indicated that Germany's Wintershall was seeking permission from Libya to drill in former U.S.-owned oilfields.

Overall, Libya would like foreign company help to increase the country's oil production capacity from 1.5-1.6 million bbl/d at present to 2 million bbl/d by 2003. This would restore Libya's oil production capacity to the level of the early 1970s. During the 1970s, the country's revolutionary government imposed tough terms on producing companies, leading to a slide in oilfield investments and oil production. In May 2000, Libya invited around 50 foreign oil and gas companies to a meeting to discuss exploration and production sharing agreements. In November 2000, Libya set the end of the year as the deadline for bids in its latest licensing round (EPSA IV), covering the Murzuk, Sirte, Kufra, Ghadames, and Cyrenaica basins. As of July 2001, international oil companies were awaiting NOC's decision on awarding blocks). In order to achieve its oil sector goals, Libya will require as much as $10 billions in foreign investment through 2010. Around $6 billion of this is to go towards exploration and production, with the rest going towards refining and petrochemicals.

Currently, Libya has 12 oil fields with reserves of 1 billion barrels or more each, and two others with reserves of 500 million-1 billion barrels. Libya's onshore oil (where most production currently takes place) is found mainly in three geological trends of the Sirte Basin: 1) the western fairway, which includes several large oil fields (Samah, Beida, Raguba, Dahra-Hofra, and Bahi); 2) the north-center of the country, which contains the giant Defa-Waha and Nasser fields, as well as the large Hateiba gas field; and 3) an easterly trend, which has such giant fields as Sarir, Messla, Gialo, Bu Attifel, Intisar, Nafoora-Augila, and Amal. Despite years of oil production, Libya retains a large untapped oil and gas potential, with only around 25% of Libya's area covered by agreements with oil companies. This potential is due largely to lack of investment mainly as a result of stringent fiscal terms imposed by Libya on foreign oil companies under EPSA III. NOC priorities for exploration include new areas in the Sirte, Ghadames, and Murzuq basins, plus unexplored areas such as Kufra and Cyrenaica. NOC also hopes to apply modern Enhanced Oil Recovery (EOR) techniques to existing oil fields.

Libya has a relatively narrow continental shelf and slope in the Mediterranean and Gulf of Sirte, which widens in the west in the Gulf of Gabes. The northern part of the Gulf of Gabes, also known as the November Seventh concession, lies on the Libyan-Tunisian border and is rich in oil and gas. As part of a 1988 settlement to a long-standing territorial dispute, the area (which contains an estimated 3.7 billion barrels of oil and nearly 12 trillion cubic feet -- Tcf -- of natural gas) is set to be exploited by the Libyan-Tunisian Joint Oil Company (JOC), a 50-50 venture of Libya's NOC and Tunisia's ETAP. The Libyan side of the zone contains the Omar structure, which is estimated to contain more than 65% of the zone's total oil and gas reserves. On February 1, 1997, JOC awarded the entire block to a consortium consisting of Saudi Arabia's Nimr Petroleum (55%) and Malaysia's Petronas (45%). The companies have a $30-million, 5-year commitment to explore the block. Full development of the concession could cost more than $1 billion.



Production, Exports, and Reserves

Libya produces high-quality, low-sulphur ("sweet") crude oil at very low cost (as low as $1 per barrel at some fields). For the first five months of 2001, Libyan oil production was estimated at just under 1.5 million bbl/d, less than half the 3.3 million bbl/d produced in 1970. Libya would like to boost oil output, and the suspension of U.N. sanctions, along with possible changes to Libya's 1955 hydrocarbons legislation, could be helpful in this regard. Sanctions had caused delays in a number of field development and EOR projects, and had deterred foreign capital investment to an extent. Suspension of sanctions means that Libya now can resume purchases of oil industry equipment. With reserve replacement slipping since the 1970s, Libya's challenge is maintaining production at mature fields (Brega, Sarir, Sirtica, Waha, Zuetina) while at the same time bringing new fields like Murzuk/El Sharara (online in December 1996; reserves of 2 billion barrels; main operator Repsol-YPF, along with Austria's OMV and TotalFinaElf) and Mabruk online. Libya currently exports about 1.2 million bbl/d of oil. Nearly all (about 90%) of this is sold to European countries like Italy (516,000 bbl/d in 1999), Germany (244,000 bbl/d in 2000), France (60,000 bbl/d in 2000), Spain and Greece.

With state-operated oil fields undergoing a 7%-8% natural decline rate, Libya depends heavily on foreign companies and workers. Major foreign companies include Spain's Repsol-YPF (150-200,000 bbl/d of output, mainly at the El Shahara field, plus exploration at blocks NC-186, NC-187, and North-A), Italy's Agip-ENI (82,000 bbl/d from Bu Attifel, plus exploration on block NC-174 and in the el-Bouri offshore field), Austria's OMV, Germany's Wintershall and Veba (50,000 bbl/d, mainly from its Amal field in Block NC-12), and multinational TotalFinaElf. Production from Block NC-115 of the Murzuk basin, being developed by Repsol-YPF, TotalFinaElf, and OMV (with 75% of output going to Libya's NOC), increased to around 75,000 bbl/d in early 1998, and 140,000 bbl/d as of early 1999. In January 1999, Repsol (now Repsol-YPF) said that it had found an "important" petroleum deposit of light, sweet (low sulfur) oil in the Block. In May 2001, TotalFinaElf announced that it had discovered a new oil deposit in Block NC-186 of Murzuk. TotalFinaElf shares the block with Repsol YPF.

Libya is actively courting foreign oil companies. In early July 1999, Repsol-YPF said that Libya would be a key area in its future expansion plans. In April 1999, Libya held an oil and gas conference in Geneva, attended by some 400 oil executives, at which Libyan Energy Minister al-Badri assured oil companies that existing acreage contracts with Libya would be honored. In November 1999, NOC named 80 blocks -- both onshore and offshore -- that would be opened to foreign oil companies already working in Libya as well as those which have expressed interest under EPSA III terms. These blocks included: C1-C8, in the Cyrenaica Basin (northeastern Libya); G1-G6, in the Ghadames Basin (western Libya); M1-M13 in the Murzuk Basin (the southwest "frontier" region); O1-O13, in non-committed offshore areas; and S1-S53, in the Sirte Basin, center of current oil production in Libya. In June 2000, news reports indicated that Libya was preparing a licensing round for fall 2000 on over 130 oil and gas blocks.

Of NOC's subsidiaries, the largest oil producer is the Waha Oil Company (WOC), created in 1986 to take over operations from Oasis Oil Co., a joint venture of NOC, Conoco, Marathon, and Amarada Hess. WOC has been among the companies most adversely affected by the U.S. embargo. This is due to the fact that its oilfields are equipped mainly with old U.S. equipment, for which WOC cannot now acquire needed spare parts. As a result, production at WOC's giant Waha field has fallen sharply despite an emergency maintenance program begun in 1992. After Waha, the next largest is the Arabian Gulf Oil Company (Agoco), with production coming mainly from the Sarir, Nafoora/Augila, and Messla fields.

Another large NOC subsidiary is the Sirte Oil Company (SOC), originally created in 1985 as a joint venture with Grace Petroleum, one of the five U.S. companies forced by the U.S. government to leave Libya in 1996. SOC operates the Raguba field in the central part of the Sirte Basin. The field is connected by pipeline to the main line between the Nasser field and Marsa el-Brega. Nasser is one of the largest oilfields in Libya, with production of about 50,000 bbl/d of oil, down from 70,000 bbl/d in 1992. Besides Nasser, SOC is in charge of two other gas fields -- Attahaddy and Assumud.

Libya's oilfields are connected to Mediterranean terminals by an extensive network of pipelines. Libya's main crude oil pipelines are: Sarir-Marsa el Hariga (Tobruk); Messla-Ras Lanuf; Waha-Es Sider; Hammada el Hamra-Az Zawiya; Amal-Ras Lanuf; Intisar-Zueitina; Nasser (Zelten)-Marsa el Brega. NOC is considering bids for a $150 million-$300 million expansion of the oil terminal and refinery facility at Az Zawiya.

Exploration and Development

Oil exploration in Libya began in 1955, the key national Petroleum Law No. 25 was enacted in April 1955. Libya's first oil fields were discovered in 1959 (at Amal and Zelten -- now known as Nasser), and oil exports began in 1961. After years of little activity due in part to sanctions, Libya now is attempting to attract foreign companies with improved incentives and production terms. Libya has legislation pending which would grant foreign firms better terms, including access to exploration acreage, small field developments, large field incremental production opportunities, and adoption of international competitive bidding practices. Currently, only around 25% of the country's oil fields have been granted to foreign operators (although Libya does plan to open up some 40 blocks in the Sirte basin and other areas to foreign investment). In July 2000, NOC said that it would open up around 70% of its land to exploration, and that it would bundle exploration blocks into three packages, with the first package to include blocks in the oil-rich Murzuk basin.

The major component of Libya's expansion plans is development of the el-Bouri offshore oilfield off Libya's western coast, the largest producing oilfield in the Mediterranean Sea (at around 60,000 bbl/d). Italy's Agip-ENI is the developer of the field, discovered in 1976 at a depth of 8,700 feet and estimated to contain 2 billion barrels in proven recoverable crude oil reserves. The first phase of field development, costing $2 billion, was completed in 1990, with el-Bouri producing about 150,000 bbl/d in 1995, with a sharp decline thereafter. This decline was due largely to an inability to import EOR equipment under UN sanctions, and possibly could be reversed with an infusion of investment. Besides oil, el-Bouri also contains large amounts (2.5 Tcf) of associated gas.

Since the discovery of the giant, 2-billion barrel el-Bouri field, Agip-ENI has reported a series of oil finds in its various blocks, as have other oil companies in the country. The most significant of these is in the Murzuk basin, in the Sahara south of Tripoli. El Bouri was purchased by Repsol in 1993 for $65 million. Repsol-YPF currently is leading a European consortium, which also consists of OMV and TotalFinaElf. Original expectations were that Murzuk/El Sharara's output of light (44º API), sweet (less than 0.6% sulphur content) crude production would reach 200,000 bbl/d by the end of 1998, but various problems, including difficulties with the pipeline to the port of Az Zawiya, delayed achievement of this target. Currently, oil from Murzuk/El Sharara is being processed by the Az Zawiya refinery.

In October 1997, an international consortium led by British company Lasmo (with a 33.3% stake), along with Agip-ENI (33.3%) and a group of five South Korean companies (led by Korea National Oil Corp., replacing Pedco, and including Hyundai), announced that it had discovered large recoverable crude reserves (around 700 million barrels) at the NC-174 Block, 465 miles south of Tripoli, in the remote Murzuk basin. Lasmo has estimated that production from the field, which it has named Elephant, will cost around $1 per barrel (Repsol-YPF's Murzuk/El Sharara field, with its 30-inch pipeline to the coast, is located only 40 miles to the north). According to Lasmo, appraisal drilling in 1998 has confirmed recoverable reserves of around 560 million barrels. Elephant originally was due to begin production late in 2000 at around 50,000 bbl/d, and to utilize an existing 30-inch pipeline located 42 miles to the north. Production start-up now has been delayed, reportedly due to bureaucratic obstacles, at least until 2002. Production at Elephant is expected to reach 150,000 bbl/d with a year or two of startup.

Other foreign companies active in Libya include: Lundin Oil, a Swedish independent, along with its affiliate Red Sea Oil of Canada, has discovered an estimated 84 million barrels of oil at the En Naga North and West fields on block NC-177 in the Sirte basin (in December 1999, Red Sea announced that testing on the block had been suspended); TotalFinaElf, whose Mabruk field is producing around 18,000 bbl/d; and Canadian Occidental, which controls but has not yet developed a potential 200-million-barrel field in Block NC-101 in the Murzuk basin. In June 2001, Petro-Canada agreed to purchase Lundin's interest in the En Naga block.

Refining/Marketing

Libya has three domestic refineries, with a combined nameplate capacity of approximately 343,400 bbl/d, nearly twice the volume of domestic oil consumption (the rest is exported). These refineries include: 1) the Ras Lanuf export refinery, completed in 1984 and located on the Gulf of Sirte, with a crude oil refining capacity of 220,000 bbl/d; 2) the Az Zawiya refinery, completed in 1974 and located in northwestern Libya, with crude processing capacity of 120,000 bbl/d; and 3) Brega, the oldest refinery in Libya, located near Tobruk with crude capacity of 8,400 bbl/d. In February 2001, bids were submitted by engineering and construction firms on a $400 million project to upgrade Az Zawiya (including construction of a new 100,000-bbl/d refinery). Ras Lanuf also is slated for upgrading, although that project appears to have been delayed.

In addition to its domestic refineries, Libya also has operations in Europe. Libya is a direct producer and distributor of refined products in Italy, Germany, Switzerland, and (since early 1998) Egypt. In Italy, Tamoil Italia, based in Milan, controls about 5% of the country's retail market for oil products and lubricants, which are distributed through nearly 2,100 Tamoil service stations. Sanctions have constrained Libya's ability to increase the supply of oil products to European markets, however, as Libya's refineries are badly in need of upgrading, especially in order to meet stricter EU environmental standards in place since 1996. In Egypt, Libya is planning to build gasoline stations on the coastal road linking the two countries as well as in other areas of Egypt. The stations are to be run by Libya's foreign oil investment arm Oilinvest. Libya also reportedly is interested in purchasing hundreds of "Jet" gasoline stations in the United Kingdom.

Libya's refining sector reportedly was hard hit by U.N. sanctions, specifically U.N. Resolution 883 of November 11, 1993, which banned Libya from importing refinery equipment. Libya is seeking a comprehensive upgrade to its entire refining system, with a particular aim of increasing output of gasoline and other light products (i.e. jet fuel). Possible projects include a new 20,000-bbl/d refinery in Sebha (for which Libya is seeking foreign investment), which would process crude from the nearby Murzuk field, and a 200,000-bbl/d export refinery in Misurata.

NATURAL GAS

Continued expansion of gas production remains a high priority for Libya for two main reasons. First, Libya has aimed (with limited success) to use gas instead of oil domestically, freeing up more oil for export. Second, Libya has vast gas reserves and is looking to increase its gas exports, particularly to Europe. Libya's proven natural gas reserves in 2001 are estimated at 46.4 Tcf, but the country's actual gas reserves are largely unexploited (and unexplored), and thought by Libyan experts to be considerably larger, possibly 50-70 Tcf. Major producing fields include Attahadi, Hatiba, Zelten, Sahl, and Assumud. To expand its gas production, marketing, and distribution, Libya is looking to foreign participation and investment. In recent years large new discoveries have been made in the Ghadames and el-Bouri fields, as well as in the Sirte basin. Libya also produces a small amount of liquefied petroleum gas (LPG), most of which is consumed by domestic refineries. Libyan natural gas development projects currently underway include as-Sarah and Nahoora, Faregh, Wafa, offshore block NC-41, abu-Attifel, Intisar, and block NC-98. In May 2000, NOC reportedly came out with a framework for gas exploration in the country, under which NOC would have first priority to the foreign company's gas share at an agreed discount. In December 2000, NOC announced that it had discovered a 472-Bcf gas field in the Sirte basin, northwest of Assumud.

Potential exists for a large increase in Libyan gas exports to Europe, although at present the only customer for Libyan gas is Spain's Enagas. A joint venture between Agip-ENI and NOC on the Western Libyan Gas Project (WLGP), a $5.5-billion plan aimed at developing and exporting large volumes of natural gas to Italy, is moving ahead. The project calls for Libya to export 8 billion cubic meters (280 Bcf) of gas from a processing facility at Melitah to Italy and France over 24 years, beginning in 2004, via a 370-mile underwater pipeline under the Mediterranean to southeastern Sicily and the Italian mainland. To date, Italy's Edison Gas has committed to taking around half (140 Bcf) of this gas, and to use it mainly for power generation in Italy. Besides Edison, Italy's Energia Gas and Gaz de France have each committed to taking around 70 Bcf of Libyan gas. As part of the overall WLGP, Agip-ENI is set to develop huge Libyan gas reserves in offshore Block NC-41 in the Gulf of Gabes, as well as in the Wafa onshore gas (and oil) field on the Algerian border. Feasibility studies have been completed on Wafa and NC-41, and gas is expected to begin flowing in late 2003. The project also is expected to produce condensates estimated at around 70,000 bbl/d oil equivalent. As of July 2001, nine contracts were due to be awarded on the WLGP, including those for development of Wafa and el-Bouri.

Agip-ENI also has promoted linking the reserves of both Egypt and Libya to Italy by pipeline. An agreement in principle to link Egypt and Libya's gas grids was reached in June 1997, following a visit to Libya by Egyptian President Hosni Mubarak. The plan is currently under study. Yet another proposal is to build a nearly 900-mile pipeline from North Africa to southern Europe. Such a pipeline could transport natural gas from Egypt, Libya, Tunisia and Algeria, via Morocco and into Spain (a pipeline between Morocco and Spain already exists). Also, Tunisia and Libya agreed in May 1997 to set up a joint venture which will build a natural gas pipeline from the Mellita area in Libya to the southern Tunisian city and industrial zone of Gabes. In late 1998, Tunisia and Libya signed an agreement for around 70 Bcf of gas per year to be delivered from Libyan gas fields to Cap Bon, Tunisia beginning in 2003.

In 1971, Libya became the second country in the world (after Algeria in 1964) to export liquefied natural gas (LNG). Since then, Libya's LNG exports have generally languished, largely due to technical limitations which do not allow Libya to extract LPG from the LNG, thereby forcing the buyer to do so. Libya's LNG plant, at Marsa El Brega, was built in the late 1960s by Esso and has a capacity of 124 billion cubic feet per year, but due to technical limitations only about one-third of this is available for export, mainly to Enagas of Spain. Work to refurbish and upgrade the El Brega LNG plant in order to deal with the LPG separation problem has been delayed since 1992. If completed, Libyan LNG exports could triple, with likely customers including Spain, Turkey and Italy.

ELECTRIC POWER

Libya currently has electric power production capacity of about 4.6 gigawatts. Power demand is growing rapidly (6%-8% annually), and Libya has plans to more than double installed capacity by 2010 at a cost of over $3 billion. Most of the country's existing power stations are oil-fired, though several have been converted to gas. Projects have been planned to develop other gas-fired facilities, although most appear to have stalled. In February 1995, for instance, Siemens won a letter of intent to build a 450-megawatt (MW), gas-fired power plant in Sebha, 300 miles south of Tripoli. Originally, the plant was to have been completed in 18 months, but this has not happened. Other plans to utilize natural gas include the 600-MW Western Mountain Power Project (Italy's Enelpower has been announced as the preferred bidder), an 800-MW power plant in Zuwara on the west coast, a 1,400-MW power plant to be located on the coast between Benghazi and Tripoli, and a 1,200-MW combined power and desalination complex in Sirte (bidders include France's Alstom, Italy's Ansaldo Energia and Enelpower, and India's BHL). Meanwhile, Libya, Egypt, and Tunisia have finished linking their power grids. Libya has plans to upgrade its own power transmission network in coming years, at an estimated cost of $1.5 billion.

In recent months, Libya's state-owned General Electricity Company (GEC) has hinted at the possibility of allowing private investment in the country's power generation and distribution. The country's power sector requires substantial investment, and officials are looking at alternatives to public financing, but despite this, it remains unlikely that Libya will undertake any large-scale power privatization or allow independent power projects (IPPs) anytime soon. Meanwhile, the Export-Import Bank of South Korea reportedly has guaranteed $99 million of the $299 million cost of an expansion and upgrading project at the 450-MW Benghazi North power plant. The project would double the plant's capacity and convert it to combined cycle. GEC's biggest current project is to expand Libya's network of power substations, which are concentrated mainly in Benghazi, Sebha, and Tripoli.

COUNTRY OVERVIEW

President (Chief of State): Mu'ammar Qadhafi (since September 1, 1969)
Independence: December 24, 1951 (from Italy)
Population (2000E): 5.6 million
Location/Size: North Africa/1,775,500 sq km (685,524 sq mi), slightly larger than Alaska
Major Cities: Tripoli (capital), Benghazi, Misurata
Languages: Arabic; Italian and English widely understood in major cities
Ethnic Groups: Arab (97%)
Religions: Sunni Muslim (97%)
Defense (1998E): Army (35,000), Air Force (22,000), Navy (8,000)

ECONOMIC OVERVIEW

Currency: Libyan Dinar (LD)
Official Exchange Rate (7/26/01): US$1=0.5635 LD
Gross Domestic Product (GDP) (2000E): $39.6 billion
Real GDP Growth Rate (2000E): 5.0%-6.5% **(2001E):** 4.5%

Inflation Rate (consumer prices, 2000E): 18.5% **(2001E):** 15%
Unemployment Rate (1998E): around 30%
Current Account Balance (2000E): $2.01 billion
Major Trading Partners: Italy, Germany, Spain
Merchandise Exports (2000E): $7.7 billion **(2001E):** $8.1 billion
Merchandise Imports (2000E): $4.6 billion **(2001E):** $4.9 billion
Merchandise Trade Balance (2000E): $3.1 billion **(2001E):** $3.25 billion
Major Export Products: Crude oil, refined petroleum products, natural gas
Major Import Products: Manufactured goods, food and primary products
Total External Debt (non-military) (1999E): $3 billion
International Reserves (2001E): $10.4 billion

ENERGY OVERVIEW

Head of National Oil Company (former Energy Minister): Abdullah Salem Al-Badri
Proven Oil Reserves (1/1/01): 29.5 billion barrels
OPEC Crude Oil Production Quota (effective 9/1/01): 1.242 million bbl/d (down from 1.296 million bbl/d since 4/1/01)
Oil Production Capacity (2001E): 1.5-1.6 million bbl/d
Oil Production (2000E): 1.47 million barrels per day (bbl/d), of which 1.41 million bbl/d was crude oil, and 60,000 bbl/d was natural gas liquids
Oil Consumption (2000E): 183,000 bbl/d
Net Oil Exports (2000E): 1.29 million bbl/d
Major Oil Customers (1999E): Italy, Germany, Spain, and France combined account for around three-quarters of Libya's oil exports; other customers include Austria, Greece, Britain, and Switzerland
Crude Oil Export Revenues (2000E): $12.9 billion **(2001E):** $12.5 billion
Oil Export Revenues/Total Export Revenues (2000E): 98%
Crude Oil Refining Capacity (1/1/01E): 343,400 bbl/d
Natural Gas Reserves (1/1/01): 46.4 trillion cubic feet (Tcf)
Natural Gas Production (1999E): 0.22 Tcf
Natural Gas Consumption (1999E): 0.18 Tcf
Electric Generation Capacity (1999E): 4.6 gigawatts (all thermal)
Electricity Generation (1999E): 18.9 terawatthours

ENVIRONMENTAL OVERVIEW

Total Energy Consumption (1999E): 0.57 quadrillion Btu* (0.15% of world total energy consumption)
Energy-Related Carbon Emissions (1999E): 11.3 million metric tons of carbon (0.18% of world carbon emissions)
Per Capita Energy Consumption (1999E): 94.5 million Btu (vs U.S. value of 355.8 million Btu)
Per Capita Carbon Emissions (1999E): 1.9 metric tons of carbon (vs U.S. value of 5.5 metric tons of carbon)
Energy Intensity (1999E): 32,398 Btu/$1990 (vs U.S. value of 12,638 Btu/$1990)**
Carbon Intensity (1999E): 0.64 metric tons of carbon/thousand $1990 (vs U.S. value of 0.19 metric tons/thousand $1990)**
Sectoral Share of Energy Consumption (1998E): Transportation (48.4%), Industrial (45.8%),

Residential (5.8%), Commercial (0.0%)
Sectoral Share of Carbon Emissions (1998E): Transportation (53.7%), Industrial (40.6%), Residential (5.6%), Commercial (0.0%)
Fuel Share of Energy Consumption (1999E): Oil (66.7%), Natural Gas (33.3%), Coal (0.0%)
Fuel Share of Carbon Emissions (1999E): Oil (67.8%), Natural Gas (32.1%), Coal (0.0%)
Renewable Energy Consumption (1998E): 66.5 trillion Btu* (1,278% increase from 1997)
Number of People per Motor Vehicle (1998): 4.8 (vs U.S. value of 1.3)
Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified June 14th, 1999). Not a signatory to the Kyoto Protocol.
Major Environmental Issues: Desertification; very limited natural fresh water resources; the Great Manmade River Project, the largest water development scheme in the world, is being built to bring water from large aquifers under the Sahara to coastal cities.
Major International Environmental Agreements: A party to Conventions on Desertification, Marine Dumping, Nuclear Test Ban and Ozone Layer Protection. Has signed, but not ratified, Biodiversity, Climate Change and Law of the Sea.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP based on EIA International Energy Annual 1999

OIL AND GAS INDUSTRIES

State Oil Companies: *Libyan National Oil Company* (NOC) - Manages the state-owned oil industry and controls over 70% of Libya's oil production, *Oilinvest* - Manages all international investments
Foreign Energy Company Involvement: Agip-ENI (Italy), Canadian Occidental, Husky Oil (Canada), Lasmo (UK), Lundin Oil (Sweden), Nimr Petroleum (Saudi Arabia), OMV (Austria), PanCanadian; Pedco (South Korea), Petrobras (Brazil), Petro-Canada (Canada), Petronas (Malaysia), Red Sea Oil Corp. (Canada), Repsol-YPF (Spain), Saga (Norway), Shell; TotalFinaElf (France), Veba (Germany), Wintershall (Germany)
Major Oil Ports: Es Sider, Zuetina, Tripoli
Major Oil and Gas Fields: Amal, el-Bouri, Bu Attifel, Defa-Waha, Elephant, Kabir, Mabruk, Murzuk, Nasser, Omar, Sarah, Zueitina
Major Pipelines: Amal-Ras Lanuf; Defa-Nasser; Hammada el Hamra-Az Zawiya; Intisar-Zueitina; Intisar -Hatiba; Messla-Ras Lanuf; Nasser-Hatiba; Nasser (Zelten)-Marsa el Brega; Sarir-Marsa el Hariga; Waha-Es Sider
Major Refineries (crude oil capacity): Ras Lanuf (220,000 bbl/d), Az-Zawiya (115,000 bbl/d), Brega (8,400 bbl/d)

Sources for this report include: Africa News; Africa Oil and Gas; AFX European Focus; Agence France Presse; AP Worldstream; BBC Summary of World Broadcasts; Canada NewsWire; CIA World Factbook 2000; Dow Jones Interactive; Dow Jones Newswires; Economist Intelligence Unit ViewsWire; Energy Day; Financial Times Energy Newsletters; The Guardian; Hart's Africa Oil and Gas; Hart's E & P

Daily; Les Echos; Middle East Economic Digest (MEED); Oil Daily; Oil and Gas Journal; Petroleum Economist; Petroleum Intelligence Weekly; Platt's Oilgram News; Reuters; U.S. Energy Information Administration; Washington Post; World Gas Intelligence; World Markets Online; World Oil.

For more information on Libya, please see these other sources on the EIA web site:
EIA - Historical Energy Data on Libya
OPEC Revenues Fact Sheet

Links to other U.S. government sites:
2000 CIA World Factbook - Libya
U.S. Treasury Department's Office of Foreign Assets Control
U.S. Iran and Libya Sanctions Act of 1996
U.S. State Department's Consular Information Sheet - Libya
Library of Congress Country Study on Libya

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